

CLAIMS

I claim:

1. A connection arrangement for aligning and securing a female coupling on a trailer with a tow ball operably connected to a tow vehicle comprising:
 - an alignment assembly removably attached to a frame of the trailer;
 - a motion transfer assembly connected by the alignment assembly to the trailer
 - 5 frame, the motion transfer assembly taking the form of a horizontal jacking mechanism including a rotatable crank for moving a transfer tube relative to a power crank device;
 - a bar receiver assembly connected by a tow ball to the tow vehicle; and
 - a pivot arm assembly pivotally connected between the transfer tube of the
 - 10 motion transfer assembly and the tow vehicle,
 - whereby rotation of the crank will move the female coupling on the trailer into alignment with the tow ball so that the female coupling can be locked upon the tow ball enabling the tow vehicle to tow the trailer.
2. The connection arrangement of claim 1, including a restraining arrangement connected between the alignment assembly and the motion transfer assembly for stabilizing the position of the motion transfer assembly.
3. The connection arrangement of claim 1, wherein the alignment assembly includes a plate structure connected to the tow vehicle.
4. The connection arrangement of claim 1, wherein the power crank device has a stabilizer plate having one end connected to the alignment assembly.
5. The connection arrangement of claim 4, wherein the stabilizer plate has a second end connected to the restraining arrangement.

6. The connection arrangement of claim 1, wherein the bar receiver assembly includes a straight bar having an upstanding V-shaped plate attached thereto, the straight bar being formed with a recess for receiving the tow ball which passes through a hole in a support bar extending from the tow vehicle.

7. The connection arrangement of claim 6, wherein the straight bar includes a pair of screw-type couplings for preventing swinging movement of the straight bar and V-shaped plate.

8. The connection arrangement of claim 1, wherein the pivot arm assembly has one end attached to a receiver secured to a rear end of the tow vehicle.

9. The connection arrangement of claim 2, wherein the restraining arrangement is adjustable to vary the position of the motion transfer assembly relative to the alignment assembly.

10. A method for aligning and securing a female coupling on a trailer with a tow ball connected to a tow vehicle, the method comprising the steps of:

removably attaching an alignment assembly to a frame of a trailer;

5 connecting a motion transfer assembly to the trailer frame by means of the alignment assembly, the motion transfer assembly being provided in the form of a horizontal jacking mechanism including a rotatable crank for moving a transfer tube relative to a power crank device;

connecting a bar receiver to the tow vehicle by means of the tow ball;

10 connecting a pivot arm assembly between the transfer tube of motion transfer assembly and the tow vehicle;

rotating the crank to move the female coupling on the trailer into alignment with the tow ball; and

loading the female coupling onto the tow ball enabling the tow vehicle to tow the trailer.